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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/098,547	03/18/2002	Masayuki Koyano	217693US0	4941

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EXAMINER

SHAH, MANISH S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/098,547

Applicant(s)

KOYANO ET AL.

Examiner

Manish S. Shah

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NW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 38 is/are pending in the application.
- 4a) Of the above claim(s) 14-37 and 39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,4,5. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 6-9 & 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurabayashi et al. (# US 5618338).

Kurabayashi et al. discloses an image recording method including, applying a pretreatment liquid (liquid composition) on a surface of a recording material; and discharging recording ink (ink composition) according to image signals to form an ink image on the liquid composition before the liquid composition is dried, wherein the recording ink comprises a solvent (water-soluble organic solvent) and colorant, which is dispersed or dissolved in solvent (column: 6, line: 50-65). They also disclose that the liquid composition including about 5 to 60% of water-soluble organic solvent (column: 6, line: 8-30) and 0.05 to 20% of cationic polymer (column: 5, line: 35-65). They also disclose that the viscosity of the liquid composition is 1 to 30 cps (mPa.s) (column: 6, line: 45-50). They also disclose that the surface tension of the ink composition and liquid composition is between 10 to 60 dyne/cm (mN/m) (column: 6, line: 40-50). They also disclose that the liquid composition is applied on area of the recording material on which the ink image is and is not formed (column: 10, line: 5-15). They also disclose that the

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liquid composition can applied on recording medium by spraying or by a roller (column: 10, line: 38-45). They also discloses that the component in the recording ink is an anionic material, which is selected from the anionic dye, anionic color particles, pigments dispersed by anionic dispersant, dyes dispersed by an anionic dispersant (column: 6, line: 63-67; column: 7, line: 23-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurabayashi et al. (# US 5618338) in view of Nagai et al. (# US 6261349).

Kurabayashi et al. discloses all the limitation of the image recording method except that: (1) the pretreatment liquid is applied on the surface of the recording material in an amount of from 0.5 to 10 g/m². (2) The recording ink has a contact angle not greater than 90° against the surface of the recording material.

Nagai et al. teaches that to get the high quality image with excellent reproduction of fine line, free of feathering, high image density, the recording liquid (recording ink) adjusted so as to exhibits a contact angle of 90° or less (column: 4, line: 49-65); and to

minimize the curling of the recording medium, the image recording acceleration liquid (pretreatment liquid) to be deposited in an amount of 0.1 to 10 g/m² (column: 8, line: 55-60).

It would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the image recording method of the Kurabayashi et al. by the aforementioned teaching of Nagai et al. for the purpose of to getting the high quality image with excellent reproduction of fine line, free of feathering and high image density with minimum curling.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurabayashi et al. (# US 5618338) in view of Takemoto et al. (# US 6286953).

Kurabayashi et al. discloses all the limitation of the image recording method except that the heating the ink image formed on the pretreatment liquid on the recording material before the pretreatment liquid dried.

Takemoto et al. teaches that to get the better rubbing resistance printed image, image recording method includes the steps of heating, which heats the ink image formed on the pretreatment liquid on the recording material before the pretreatment liquid dried (column: 4, line: 34-65; figure: 6, element: 14).

It would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the image recording method of the Kurabayashi et al. by the aforementioned teaching of Takemoto et al. for the purpose of to getting the printed image with better rubbing resistance.

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurabayashi et al. (# US 5618338) in view of Hosoi et al. (# US 5589259).

Kurabayashi et al. discloses all the limitation of the image recording method except that the recording material includes pulp fibers, and wherein the recording material has a sizing degree not less than 10s and air permeability of from 5 to 50s.

Hosoi et al. teaches that to get the excellent image quality, less bleeding and uniform image density (see Abstract; column12, line: 1-10), the recording material includes pulp fibers (column: 8, line: 65-67), and wherein the recording material has a sizing degree is from 10s to 60s (column: 9, line: 22-27) and air permeability of from 5 to 15s (column: 3, line: 10-50).

It would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the image recording method of the Kurabayashi et al. by the aforementioned teaching of Hosoi et al. for the purpose of to getting the bleed free, uniform image density, and excellent printed image.

5. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimoda et al. (# US 6126281) in view of Kurabayashi et al. (# US 5618338).

Shimoda et al. discloses an image recording method including, discharging recording ink according to image signals to form an ink image on a surface of the recording material on which pretreatment liquid is applied and has dried (figure: 4; column: 7, line: 9-30).

Shimoda et al. differs from the claim of the present invention in that the recording ink includes solvent and component (colorant) dispersed or dissolved in the solvent, and the pretreatment liquid comprises the dispersibility and solubility of component in the recording ink in an amount of 10 to 80% by weight and the viscosity of the pretreatment liquid is 10 cp to 10,000 mPa.s at 25 degree.

Kurabayashi et al. teaches that to get the printed image with excellent fixing property, sufficient image density and excellent color reproducibility, the recording ink includes a solvent (water-soluble organic solvent) and colorant, which is dispersed or dissolved in solvent (column: 6, line: 50-65). They also teaches that the liquid composition including about 5 to 60% of water-soluble organic solvent (column: 6, line: 8-30) and 0.05 to 20% of cationic polymer (column: 5, line: 35-65). They also disclose that the viscosity of the liquid composition is 1 to 30 cps (mPa.s) (column: 6, line: 45-50).

It would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the image recording method of the Shimoda et al. by the aforementioned teaching of Kurabayashi et al. for the purpose of to get the printed image with excellent fixing property, sufficient image density and excellent color reproducibility.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (703) 305-1562. The examiner can normally be reached on 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (703) 308-4896. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-4900.

Manish S. Shah
Examiner
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MSS

12/8/03